THE 1992 UNITED NATIONS CONVENTION ON BIOLOGICAL DIVERSITY

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I. Introduction

The United Nations Convention on Biological Diversity (CBD) provides a regulatory framework for the conservation of biological resources at the international level. It has the distinction of being the first multilateral instrument that considers the potential dangers posed by Living Modified Organisms (LMOs) to biodiversity preservation. For some, it is a different type of agreement in that it departs from standard treaty obligations[1] by outlining objectives instead of obligations.[2] It also recognizes that most genetic resources are located in developing countries and asserts the rights of those States over those resources within their territories.[3]

The CBD endorses, as well, environmental principles such as the precautionary principle and Environmental Impact Assessment (EIA) as important tools to protect biodiversity. At the same time, it has

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1 Kimball, Lee A., "Is a United Nations Convention the Most Appropriate Means To Pursue the Goal of Biological Diversity?" (1995), 28 *Vand.J. Tranat'l L.* 763 at 764 (Lexis).

2 *Ibidem*, at 765.

3 United Nations Convention on Biological Diversity, June 5, 1992, 31 *ILM* 818, entered into force Dec. 29, 1993) Mexico ratified the CBD on March 11, 1993, online: *http://www.cbd.int/doc/legal/cbd-un-en.pdf* (accessed June, 4, 2007) article 4.

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been criticized for being vague and for failing to provide implementation guidelines for State parties, thus making impossible its practical observation.[4] The objectives of the CBD can be summarized as follows: The preservation of biological diversity; the sustainable use of its components; and, the fair and equitable sharing of genetic resources.[5]

Biological diversity is defined as the "variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part".[6] Additionally, the Convention places responsibility on States to ensure that their activities from the exploitation of the resources located within their territories do not impose damage beyond the limits of their national jurisdiction.[7]

States play a fundamental role in the success of implementing the Convention. They are entrusted with fundamental roles that range from implementing preservation strategies to organizing data regarding biological resources. According to the Convention, "States shall, in accordance with their particular conditions and capabilities: develop national strategies, plans or programs for the conservation and sustainable use of biological diversity or to adapt for this purpose existing strategies".[8]

The Conference of the Parties (COP), a body entrusted to oversee the implementation of the Convention, has provided guidelines to State parties with regard to the elaboration of national policies and regulations. The COP encourages States to take those guidelines into account as part of their efforts to implement their national strategies and action plans.[9] These guidelines include those established by the United Nations Environment Programme (UNEP) and the World Conservation Union (IUCN) under the publication "National Biodiver-

[4] Wold, Chris, "The Futility, Utility, and Future of the Biodiversity Convention," (1998) 9 *Colo. J. Int'l Envtl. L. & Pol'y* 1 at 15 (Lexis).

[5] CBD, *supra* note 3 article 1.

[6] *Ibidem*, article 2.

[7] *Ibidem*, article 3.

[8] *Ibidem*, article 6.

[9] Convention on Biological Diversity, National Biodiversity Strategies and Action Plans, Consideration of Article 6 by the Conference of the Parties, online: *http://www.biodiv.org/reports/nbsap.aspx* (accessed November, 12, 2007).

sity Planning" document aimed to guide parties in national planning and reporting regarding this activity.[10]

States also have an obligation to identify components of biological diversity, and to maintain and organize this information.[11] Article 7 on identification and monitoring has been the object of considerations in the CBD. COP 2, for example, produced decision II/8, which encourages States to identify the status and trends of the components of biological diversity. Decision III/10 of the COP 3 also encourages States to take an integrative approach in protecting their biological resources.[12]

The CBD attempts to preserve biological resources in their natural surroundings and habitats (*in-situ)* and outside of their natural habitat (*ex-situ)*. *In-situ* conservation strategies encompass the establishment of protected areas, the preservation of ecosystems, and the rehabilitation of contaminated areas.[13] In addition, the Convention encourages States to regulate and manage the risks regarding the use and control of LMOs,[14] and to incorporate in their policies, respect for traditional knowledge and traditional practices.[15] Article 8 (j) of the CBD, regarding the obligation of States to preserve biodiversity *in situ* provides that Parties shall, as far as possible:

> Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices.[16]

[10] *Idem*.

[11] *Ibidem*, article 7. For more on the decisions of the COP see Mackenzie, Ruth (eds.), *Handbook of the Convention on Biological Diversity*, London & Sterling, VA: Earthscan Publications, 2001.

[12] *Idem*.

[13] CBD, *supra* note 3 article 8.

[14] *Ibidem*, article 8 (g).

[15] *Ibidem*, article 8 (j).

[16] *Idem*.

States are encouraged to employ *ex-situ* measures to preserve biological resources including the establishment of facilities for the conservation and research of plants, animal and micro-organisms. Such facilities, according to the Convention, should preferably be located in the same country as the resources that are to be preserved.[17] Protective measures in the CBD are reflected in the requirement to perform an EIA.[18] Furthermore, it persuades States to require impact assessments. Regarding EIA, the CBD provides that States shall: "Introduce appropriate procedures requiring environmental impact assessment of its proposed projects that are likely to have significant adverse effects on biological diversity with a view to avoiding or minimizing such effects and, where appropriate, allow for public participation in such procedures".[19]

Also, regarding access to genetic resources, it recognizes the rights of States to regulate it by means of national legislations. The CBD also encourages States to facilitate the transfer of genetic resources through a prior informed consent mechanism and to enjoy the benefits of such transfer.[20]

Despite the international recognition that the Convention has achieved with its widespread ratification,[21] there are several provisions, central to this legislative analysis, that water down its effectiveness. There is first the overbroad scope of the Convention; second, lack of regulation regarding access to genetic resources; third, ambiguity related to prior informed consent; and fourth, protected areas and indigenous practices. These issues will be discussed in turn.

II. The Broad Focus of the CBD

The goals of the CBD are stated in Article 1:

[17] *Ibidem*, article 9.
[18] *Ibidem*, article 14.
[19] *Ibidem*, article 14 (a).
[20] *Ibidem*, article15.
[21] To June 2007, the CBD has 190 parties. Secretariat of the Biodiversity Convention, Parties to the Convention on Biological Diversity / Cartagena Protocol on Biosafety, online: *http://www.biodiv .org/ world/parties.asp* (accessed November, 12, 2007).

> The objectives of this Convention, to be pursued in accordance with its relevant provisions, are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.[22]

As seen from this Article, the CBD aims to accomplish mainly two goals: the preservation of biological diversity and the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilization of such resources.[23] Virtually all areas of biodiversity fall under these objectives, including protection of terrestrial and marine species, forests and habitats.[24]

The ambiguous language of the CBD also hinders the application of its important provisions. Phrases such as "parties shall, as far as possible and as appropriate"[25] and "parties in accordance with their capabilities and particular conditions",[26] weaken the force of this Agreement in terms of the implementation of its obligations.

Some academics argue that the 'over breadth' of the Convention could become an advantage as it would allow for the coordination of existing agreements that aim to protect specific areas of biodiversity.[27] This possibility, is beginning to crystallize since the CBD Secretariat has participated in several meetings with the executive secretaries of Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Bonn Convention to discuss collaboration among these treaties. A closer collaboration among these treaties is expected to take place in the near future potentially benefiting the implementation of the CBD.[28]

[22] CBD, *supra* note 3 article 1.
[23] *Idem*.
[24] Wold, Chris, *supra* note 4 at 2.
[25] CBD, *supra* note 3 article 5.
[26] *Ibidem*, article 6.
[27] Wold, Chris, *supra* note 4 at 22.
[28] CBD, Report on Activities of the Secretariat on the Implementation of the Work Programme of the Convention and its Protocol, (2006),UNEP/CBD/COP/Bur/2006/6, online: *http://www.biodiv.o rg/doc/secretariat/activities/activities-2006-report-en.pdf* at 7 (accessed November, 12, 2007).

III. Access to Genetic Resources and Benefit Sharing

Genetic resources are defined in the CBD as "material of plant, animal, microbial, or other origin that contains units of heredity".[29] These resources, according to the Convention, must be of actual or potential value.[30] Genetic material covered under this Agreement could include seeds, cuttings, individual organisms or sperm.[31] The CBD, in Article 15, strives to balance the vast genetic resources of developing countries against the enormous economic resources of developed countries by regulating access to genetic resources.[32]

The CBD also encourages developed countries to compensate developing countries for the utilization of their resources.[33] It has been suggested that by recognizing the absolute right of States over the genetic resources located within their national jurisdiction, the CBD departs from the 'common heritage' approach.[34] The CBD provides, with respect to access to genetic resources, that States shall not impose restrictions that run counter to the sustainable use and conservation of biological resources.[35]

Issues related to the sharing of benefits from the exploitation of genetic resources were considered at the Conference of the Parties (COP) that took place in Curitiba, Brazil from the 20th to the 31st of March, 2006.[36] The COP's objectives were to facilitate and regulate access to genetic resources according to the objectives of the CBD, to ensure the equitable sharing of monetary and non-monetary benefits

29 CBD, *supra* note 3 article 2.

30 *Idem*.

31 Glowka, L. *et al.*, *A Guide to the Convention on Biological Diversity*, Gland and Cambridge, IUCN, 1994 at 21-22.

32 Blais, Francois, "The Fair and Equitable Sharing of Benefits from the Exploitation of Genetic Resources: A Difficult Transition from Principles to Reality" at 145 in Le Prestre, Philipe G. (ed.), *Governing Global Biodiversity*, Burlington, VT: Ashgate, 2002.

33 CBD, *supra* note 3 article 15.

34 Downes, David R., "New Diplomacy for the Biodiversity Trade: Biodiversity, Biotechnology, and Intellectual Property in the Convention of Biological Diversity", (1993) 4 *Touro J. Transnat'l L. 1.* at 9.

35 CBD, *supra* note 3 see article 15 (2).

36 COP8, March 2006, decision VIII/4, online: *http://www.biodiv.org/decisions/default.aspx?m=COP-08&id=11016&lg=0* (accessed November, 12, 2007).

from the use of genetic resources and those associated with traditional knowledge, and to establish a mechanism to assert the origin of genetic resources by means of a certificate of origin.[37]

The COP stressed the importance of national legislation or agreements among parties to regulate the transfer of genetic resources. It also stressed the need to base such transfers on the Prior Informed Consent established in Article 15 of the CBD and to take into account the Bonn Guidelines on Access to Genetic Resources provided by the CBD's Conference of the Parties.[38] With respect to the benefits arising from traditional knowledge, national authorities of the provider country, according to the COP, should provide such agreements with the active involvement of the concerned indigenous communities.

Although the COP's guidelines and recommendations regarding the fair sharing of benefits resulting from the transfer of genetic resources shed some light on this issue, the interested parties have not been able to reach a formal consensus on the matter. As has been pointed out by some, this issue raises important questions, such as the definition of fair compensation, the resources to be shared and who should be the beneficiaries of these resources.[39]

The economic factor also plays an important role in these issues. States may feel tempted to overexploit their genetic resources to obtain monetary compensation. Indigenous communities may encounter difficulties not only in seeking compensation for traditional knowledge or techniques in exploiting those resources, but also for the preservation of such traditional knowledge. The following section explores the potential of the Prior Informed Consent (PIC) in addressing some of the aforementioned problems related to access to genetic resources

[37] *Idem*.

[38] Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization, online: *http://www.biodiv.org/doc/publications/cbd-bonn-gdls-en.pdf*. Articles 1-3 (accessed November, 12, 2007). *Idem*.

[39] Blais, Francois, *supra* note 32 at 150 and 151. The Conference of the Parties of the Biodiversity Convention developed a series of mechanisms known as the Bonn Guidelines to assure access to genetic resources and the equitable sharing of their benefits. These voluntary guidelines were created to aid States in crafting a policy on access and benefit-sharing. See Bonn Guidelines *supra* previous note.

and its effectiveness as a foundation for empowering stakeholders in States decisions to transferring genetic resources.

IV. Prior Informed Consent

Governing the transfer of genetic resources is a central part of the CBD. Article 15 establishes a Prior Informed Consent (PIC) procedure as the basis for granting access to other contracting parties to such resources.[40] For some, the idea envisaged in the PIC is rooted in the 17th century and is related to democracy and the consent of the governed.[41] This idea, for others, is simply a procedural requirement of international environmental law to allow States to enjoy the benefits of genetic resources.[42] Regarding access to genetic resources and the PIC, the Convention states: "Access to genetic resources shall be subjected to prior informed consent of the contracting Party providing such resources, unless otherwise determined by that Party".[43]

The transferring party plays a significant role in the development of a PIC procedure. This party has the responsibility to develop national guidelines and to exchange information on it. It also has discretion to decide whether it will employ the procedures when transferring such resources.[44]

Although the Convention places the burden on States to elaborate PIC mechanisms, guidelines have been developed through the Conference of the Parties to assist States in this matter. The COP, through decision VI/24, adopted the Bonn Guidelines established for the regulation of access to generic resources. These guidelines outline specific requirements for the implementation of the PIC procedures. Its objectives are to contribute to the preservation of biological diver-

[40] CBD, *supra* note 3 article 15.

[41] Wolf, Amanda, "The Emergence and Implementation of the Advance Informed Agreement," in Le Prestre, Philipe G., *supra* note 32 at 129.

[42] Okowa, Phoebe N., "Procedural Obligations in International Environmental Agreements," (1996) 67 *British Yearbook of International Law* 275, in Le Prestre, *supra* note 32.

[43] CBD, *supra* note 3 article 15 (5).

[44] Glowka, Lyle, *supra* note 31 at 80 and 81.

sity and to provide parties and stakeholders with a transparent framework to facilitate access to such resources.[45]

Guideline 16 (d), for example, encourages States to seek informed consent relevant to the transfer of genetic resources, to respect the customs, values and traditions of indigenous peoples and to ensure that those resources are used in accordance with the purposes for which they were acquired.[46] Additionally, the Guidelines encourage States to document the PIC procedures.[47]

Furthermore, the Bonn Guidelines encourage States to base the PIC on legal certainty, transparency and cost effectiveness.[48] The procedures also have to include timing deadlines and mechanisms for consulting relevant stakeholders.[49]

Although the Bonn Guidelines have the potential to aid States in implementing the PIC procedure, they are far from being implemented since they are general and lack any coordination mechanism for such purposes. This situation can dramatically affect not only how States preserve their biological resources, but also how they transfer valuable genetic material. A more active role is required from the COP to monitor the implementation of the guidelines and to ensure that States develop national legislation to operationalize the PIC.

In view of the uncertainties arising from the loose obligations imposed by the CBD and the operationalization of the PIC procedure regarding access to genetic resources, a party's creation and management of protected areas seems a firmer basis for protecting biodiversity under the CBD. The next sub-section considers this issue.

V. Protected Areas and Indigenous Groups

A system of protected areas is advocated in the CBD for the preservation of biological resources.[50] It encompasses not only *in situ* protection of biological resources from LMOs and invasive species, but it

[45] Bonn Guidelines, *supra* note 38 at I.
[46] *Idem*. See Guideline 16 (d).
[47] *Idem*.
[48] *Idem*. See Guideline 26.
[49] *Idem*. See Guideline 27.
[50] CBD, *supra* note 3 article 8.

also links this to the preservation of traditional knowledge and its utilization in preserving biodiversity. Article 8 of the CBD provides that States shall: "Establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity; Develop, where necessary, guidelines for the selection, establishment and management of protected areas or areas where special measures need to be taken to conserve biological diversity".[51]

A strong system of protected areas has the potential to preserve not only biodiversity but also indigenous traditions and traditional knowledge. In spite of this potential, the effectiveness of this strategy has been questioned by the COP of the CBD on the basis of inadequate mapping and lack of resources to manage such areas.[52] In terms of this issue, the World Database of Protected Areas (WDPA) 12% of the world's territory operates under a system of protected areas.[53] These areas have been traditionally known as national parks, natural reserves or heritage sites.[54] Protected areas are defined in the CBD as geographically delineated zones, which are designated or regulated and managed to achieve specific objectives,[55] such as the protection and rehabilitation of biological diversity and ecosystems as provided under Article 8 of the CBD.[56]

COP 8 of the Convention has also considered, in Decision VIII/24, protected areas as an important tool in preserving the world's biological resources.[57] This Decision recognizes that despite the potentials of preserving species in protected areas, practice has shown that such areas do not necessarily encompass the world's ecosystems, nor do they adequately protect critical habitats and endangered species.[58] Consequently, international and national efforts should be aimed at improving management in such areas.

[51] *Ibidem*, article 8 (a).
[52] COP decision VIII/24, online: *http://www.biodiv.org/decisions/default.aspx?m=COP-08&id=11038&lg=0* (accessed November, 12, 2007).
[53] Brooks, Thomas M. *et al.*, "Coverage Provided by the Global Protected-Area System: Is it Enough?" (2004) 54 *Bioscience* 12 at 1081.
[54] Glowka, Lyle, *supra* note 31 at 39.
[55] CBD, *supra* note 3 article 2.
[56] *Ibidem*, article 8.
[57] COP decision VIII/24, *supra* note 52.
[58] *Idem*.

In addition, the Decision proposed curbing the exploitation of resources in existing protected areas and involving indigenous communities in their management and monitoring.[59] As can be seen from this Decision, traditional knowledge and indigenous communities are linked to the operation of the system of protected areas advocated in the CBD. Traditional knowledge, if integrated into such a system, has the potential to contribute to the preservation of biodiversity since traditional communities have, for generations maintained such resources.

In addition to the inadequate mapping of protected areas globally, as acknowledged at the COP 8,[60] lack of enforcement and monitoring have been identified as potential hurdles in the effective implementation of this management system.[61] The system of protected areas, as seen from the COP Decision requires substantial resources to overcome these obstacles in order for them to be an effective biodiversity preservation mechanism. Unless States allocate the necessary funds for this purpose, protected areas are not likely to afford good protection to the world's biological resources. If effectively managed, however, protected areas could usefully incorporate measures to specifically deal with the dangers of LMOs as proposed in the CBD.[62] For example, LMO-free zones could be created in areas where native species originate. The creation of these areas would not only prevent LMOs from spreading, but would also preserve native plants and indigenous traditions such as saving seeds for future seasons. In the case of Mexico, regions in the south, such as Oaxaca and Puebla where native species of maize exist and where most indigenous communities live, could benefit from the establishment of such zones.

[59] *Idem.*

[60] *Idem*.

[61] Chape, S. *et al*., "Measuring the extent and effectiveness of protected areas as an indicator for meeting global biodiversity targets", (2005) 360 *Phil. Trans. R. Soc. B.* 443. at 450-453. See also "Global Gap Analysis: towards a representative network of protected areas" 5 Advances in Applied Biodiversity Sciences, online: *http://portals.conservation.org/downloads/storedfile/Document/0x7f0a45b122b828489b23bb76013344c6.pdf* (accessed November, 12, 2007).

[62] CBD, *supra* note 3 article 8 (g).

Regarding traditional practices of indigenous communities, the Convention provides that States party shall, as far as possible and as appropriate:

> Subject to national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices.[63]

According to this provision, States have a commitment to preserve and maintain traditional practices and culture. Indigenous practices may represent the equivalent of scientific method and may provide answers to questions concerning ecosystem and species conservation.[64] Furthermore, States are encouraged to protect biological resources in accordance with traditional knowledge.[65]

Overall, several flaws exist globally, regarding the *in situ* preservation of biological resources in protected areas. Inadequate mapping, lack of financial resources and monitoring hinder the potential effectiveness of this system. These problems may prevent developing countries from effectively preserving their biological resources and from implementing the provisions of the CBD related to *in situ* preservation through the protected areas strategy. A system of LMO-free zones created under the regime of protected areas has the potential not only to address the threats posed by LMOs but also to preserve traditional knowledge employed in traditional agriculture. A strong public mechanism is required to implement the CBD provisions regarding the incorporation of traditional knowledge into the running of protected areas.

[63] CBD, *supra* note 3 see article 8 (j).

[64] Potvin, Catherine *et al.*, "The Role of Indigenous People in Conservation Actions: A Case Study of Cultural Differences and Conservation Priorities", at 58, in Le Prestre, Philippe G., *supra* note 32.

[65] CBD, *supra* note 3 see article 10 (c).

While the protected areas potential is yet to be tapped for effective control of LMO introduction into the environment, it is useful to examine what extent an environmental impact assessment process may help under the CBD. The discussion turns to this next.

VI. Environmental Impact Assessment

The utilization of an EIA process helps to identify likely harm to biological diversity and how to prevent it by providing the decision maker with grounds to reject projects that will negatively impact the environment. The stages in an EIA process include identifying the impacts of a proposed project on biological diversity.[66] This stage can particularly be problematic, since a broad range of considerations have to be taken into account, such as the effects of LMOs on similar organic species and on insects and habitats in the region where these organisms will be introduced.[67]

Assessments on biodiversity also are extremely difficult since they carry, most of the time, residual or major uncertainties as a result of their complexity and lack of reliable scientific evidence in this field.[68] Economics and technological considerations also come into play in an EIA process. It has been argued that some States may lack the monetary resources or technology to adequately perform such assessment or to scrutinize those that are performed by a proponent.[69]

Apart from consideration of the impacts, the EIA process also includes the development of alternatives for the proposed project.[70] A conclusion reached at this point can be that another location is more

[66] *Ibidem*, at 11.

[67] *Idem*.

[68] Hart, Stuart & Gordon, Enk *et al.*, *Improving Impact Assessment: Increasing the Relevance and Utilization of Scientific and Technical Information*, Boulder, Westview Press, 1984, at 144.

[69] Wathern, Peter, *Enviornmental Impact Assessment: Theory and Practice*, London; New York, Routledge, 1992 at 25. In general it can be assumed that the direct costs of the project may not represent a burden for developed countries. In the case of Australia, for example, the direct costs of the projects represented in 1990 1 percent, in Taiwan around 1.5 percent. See Gilpin, Alan, *Environmental Impact Assessment: Cutting Edge for the Twenty First Centrury*, Honk Kong, Cambridge, 1995 at 25-26.

[70] *Ibidem*, at 19.

suitable for the project or that employing different technologies could reduce negative impacts on the environment. The process also requires reporting the likely impacts of the project when it is in operation, and accommodation of public views as to undertaking it.[71] The integration of public input into the EIA process presents potential problems, specifically as to economic costs and time delays.[72] This hurdle is perhaps magnified in the case of issues involving the introduction of LMOs in view of the controversies surrounding this activity.[73]

Decision making and monitoring represent the last stages of EIA. Potential problems have already been identified at the point of engaging these two stages.[74] Though it is thought that a more active role on the part of the decision maker in early stages of the EIA would probably generate better choices, some assert that there is no guarantee that the result of the EIA would necessarily impact the decision-making process.[75]

The CBD recognizes the potential role EIA could play in preserving biological diversity. As such it encourages States to minimize adverse impacts on biological diversity by utilizing the procedure. On this matter, the CBD provides that parties shall as far as possible and as appropriate: "Introduce appropriate procedures requiring Environmental Impact Assessment of its proposed projects that are likely to have significant adverse effects on biological diversity with a view to avoiding or minimizing such effects and, where appropriate, allow for public participation in such procedures".[76]

Due to the potential difficulties that are inherent in this procedure and in light of the lack of guidance provided in Article 14 of the CBD, the COP of the CBD has developed a series of guidelines

[71] Wathern, Peter, *supra* previous note at 17-19.

[72] *Ibidem*, at 25.

[73] Other obstacles in implementing EIA have been identified as lack of background or historical records of the project, and lack of awareness of biodiversity values. *Idem*.

[74] Ahmad, Yusuf J., *Guidelines to Environmental Impact Assessment in Developing Countries*, London, Hodder and Stoughton, 1985, at 17-18.

[75] Wathern, Peter, *supra* note 69 at 17-19.

[76] CBD, *supra* note 3 see article 14.

aimed at guiding States in incorporating EIA into the decision-making process.[77]

The COP5 of the CBD in Decision V/18 invited States to employ the EIA procedure to address loss of biological diversity in conjunction with socioeconomic and human health concerns. It encouraged them to consider biological diversity in early stages of the drafting process of legislation and regulations on biodiversity preservation.[78] Also it urged States to integrate different sectors of society in all stages of the EIA process.[79]

The COP5 also recognized the potential limitations of a project-based EIA and invited States to utilize a Strategic Environmental Assessment (SEA) for enacting policy and national programs.[80] The term SEA was first introduced in a draft report to the Commission of the European Communities. This planning tool has been advocated by the COP also. It has been defined as a systematic and comprehensive process of identifying and assessing the environmental consequences of proposed programmes, plans and policies[81] whose results must be incorporated and taken into account in the early stages of environmental decision making.[82]

The SEA's aim is to guarantee continuity in environmental policy and coordination between projects and national guidelines.[83] In developing countries, for example, it has the potential to provide a more integrated and balanced decision making and to integrate

[77] CBD, Conference of the Parties 8 (COP8), Decision VIII/ 28 (2006), online: *http://www .biodiv .org/ decisions/default.aspx?m=COP-08&id=11042&lg=0* (accessed November, 12, 2007).

[78] CBD, COP5, Decision V/28 on Impact Assessment and Liability and Redress, online: *http://www.biodiv.org/decisions/default.asp?m=cop-05&d=18 at 1* (accessed November, 12, 2007).

[79] *Idem*.

[80] *Idem*.

[81] *Idem*. See Voluntary Guidelines on Biodiversity Inclusive Impact Assessment, online: *http://www3.webng.com/jerbarker/home/eia-toolkit/downloads/Boston05/Ch3Guidelines.pdf*.

[82] Treweek, Joanna, "Incorporating Biodiversity with National Environmental Assessment Processes (Biodiversity Planning Support Programme)," online: *http://www.unep.org/bpsp/eia%20guide.pdf*. at 56 (accessed November, 12, 2007).

[83] Dalal-Clayton, Barry & Sadler, Barry, *Strategic Environmental Assessment*, UK, Earthscan, 2005 at 20-23.

sustainability into policies and plans.[84] In countries like Mexico a SEA would, ideally, aid decision makers in producing strongly coordinated national policies to address the preservation of biological resources and to address the potential threat of LMOs to biodiversity preservation. SEA could potentially facilitate coordination among institutions and legislation on biodiversity preservation and, thus aid in the implementation of the CBD and the Cartagena Protocol in the country.

Decision VIII/28 of COP 8 of the CBD extensively defines EIA and SEA along with the stages and procedures that are required for both. It emphasizes that decision on undertaking projects should ensure that biodiversity preservation considerations should be integrated in the EIA and SEA procedures and that "it is desirable that the proponent and the decision-making body are two different entities".[85] Regarding the balancing of EIA results, Decision VIII/ 28 states that the precautionary approach should be taken into account in cases of scientific uncertainty and that "as scientific certainty improves, decisions can be modified accordingly".[86] Regarding SEA, the COP provides that this procedure should be taken into account in the early stages of policy and national program formulation and that a concern for biodiversity preservation should be incorporated.[87] It calls on States to allow the participation of stakeholders and to include their input into both EIA and SEA.[88]

Altogether, EIA and SEA are fundamental tools for implementing the obligations set out in the CBD, particularly regarding the assessment of activities that can potentially harm biological diversity. The rationale behind an impact assessment is to identify projects that are potentially harmful to biodiversity. The aim of the CBD COP 8 Decision VIII/28 is to provide States with guidance and tools on how to create biodiversity-friendly policies and national programs by means of SEA.

[84] *Idem*.
[85] CBD, COP8, *supra* note 77, Decision VIII/28 at 23.
[86] *Idem*.
[87] *Idem*.
[88] *Idem*.

Unfortunately, the various COPs of the CBD failed to establish procedures to weigh EIA and SEA. This can be illustrated in the area of "decision making" in which the COP 6 guideline VI/8 only recognizes that decisions are inherently political and that rejected projects can be resubmitted for reconsideration. Also, the various COPs did not provide guidelines on how to employ the precautionary principle in cases of uncertainty. Lastly, existing COP guidelines do not show States how to effectively utilize public participation and how to weigh public input. Consequently, States are left on their own as to how to use EIA and SEA.

In any case, under the CBD, States are required to employ an EIA and SEA for projects and policies that may impact negatively on biological diversity.[89] Their obligation to preserve natural resources also embodies a commitment to preserve centers of origin of species or plants for their vital role in the preservation of biological resources globally. Measures to protect native species and plants are to be put in place by parties to the Convention, and for these to be nationally coordinated with their policies on protecting their biological resources.[90] Such policies must contain biosafety legislation and create mechanisms by which to coordinate the activities of secretariats and government agencies with authority over biological resources preservation.

The CBD also demands the establishment of biodiversity reserves and protected areas for the protection of biodiversity along with the creation of zones for the preservation of traditional plants. These zoning systems ideally would include mechanisms to alert actors to products that are for feed or consumption if these should be introduced in remote communities. Indigenous communities would benefit from these measures,[91] and be helped by legislation that advocates respect for indigenous practices and traditional knowledge.[92]

Taken together the obligations to employ EIA and SEA in observing the CBD would for a developing country like Mexico require changes to existing institutions in terms of structure and powers. This

[89] CBD, *supra* note 3 article 14.
[90] *Ibidem*, see article 6.
[91] *Ibidem*, article 8.
[92] *Ibidem*, article 8(j).

means the need to devote substantial financial technical and management resources to make the changes. These concerns, as noted in the introduction to this Chapter, are addressed in Chapters V and VI. For now, the discussion turns to the Cartagena Protocol on Biosafety to lay out its obligations and how they too deepen CBD implementation challenges for Mexico.

VII. Conclusion

This legislative analysis established that though the CBD has the potential to be applied successfully to preserve the world's natural resources, its comprehensiveness waters down its obligations and complicates its implementation. Specifically for instance, its requirements for *in situ* conservation of resources is impeded by lack of sufficient demarcation of the world's protected areas. Again, its provisions recognize, but do not give clear-cut provisions as how, as part of biodiversity preservation, to protect indigenous traditions and traditional agriculture from the uncontrolled spread of LMOs. Finally, the discussion points out that the financial, technical and institutional resources needed to carry out CBD obligations pose great challenges to States like Mexico that do not command good reserves of these resources.